

THE ROLE OF TECHNOLOGICAL AND INDUSTRIAL PARKS DURING MARITAL STATE IN UKRAINE

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Abstract. *Technology and industrial parks have become especially important for ensuring economic stability and national defense in the context of the introduction of martial law in Ukraine after the full-scale armed invasion of the Russian Federation from February 2022 until today. The purpose of the article is to study the role of technological and industrial parks during the martial law in Ukraine. In particular, this paper examines the important role played by technology and industrial parks in Ukraine during the imposition of martial law following a full-scale Russian invasion in February 2022. The article analyzes in detail the activities of these parks during the war, as well as the challenges they faced and the measures taken by the state to support them.*

Using such legal methods as formal-legal, comparative-legal, statistical, logical, the authors analyze how the activity of these parks supports the economy and the defense capability of the country in wartime. Despite the hostilities, most of these parks continue to operate and serve foreign customers. This helps maintain the inflow of foreign currency into the country and maintain employment. The article also highlights the activities of industrial enterprises in industrial parks. Some companies in industrial parks have revised their production due to national security needs. This helped them meet the urgent needs of the armed forces under martial law.

Also, in this article, state support measures for technology parks and industrial zones under martial law are considered separately. They include simplified regulatory procedures and tax incentives. Such support is important for maintaining the potential of industrial parks. In general, based on the analysis, the authors conclude that technological and industrial parks are strategically important for ensuring the economic, technological and defense security of Ukraine in the conditions of a long war with the aggressor country. The activities of technological and industrial parks require comprehensive state support for the maximum use of their potential for the benefit of Ukraine.

Key words: *technological parks, industrial parks, martial law, investments, taxes, industrial production, knowledge-intensive production.*

Problem Statement. The research topic is relevant in the context of current geopolitical upheavals and the state of war imposed in Ukraine. In the conditions of martial law, technological and industrial parks not only play a crucial role in ensuring the military and economic power of the country but can also sustain the operation of vital industrial sectors in case of possible restrictions within the country.

Investigating the role of technological and industrial parks in a state of war requires a comprehensive approach, as many aspects remain unexplored by researchers. The practice of using technological and industrial parks in conflict situations and the analysis of contemporary crisis management strategies in a state of war are still largely unexplored. Notably, researchers such as H. Hornostrai, K. Hryshchenko, V. Karmanina, O. Leshchuk, O. Mykhailchenkova, Y. Ogrenich, I. Pidoricheva, S. Chernobrovkina, O. Shpak, and others have delved into

this topic. Ukraine, a country with a complex geopolitical situation, has some experience in utilizing technological and industrial parks in challenging situations. Studying this experience and analyzing its effectiveness will provide valuable information for the further development of strategies for their use in times of war.

The aim of this work is to study the role of technological and industrial parks during the state of war in Ukraine. The main research tasks include:

- investigating the utilization of technological and industrial parks in Ukraine until 2022.
- analyzing the current state of the use of technological and industrial parks in Ukraine.
- identifying the role of these parks during the state of war in Ukraine and factors for their improvement.

Presentation of the main research material. Methods. During the research, the following methods were employed:

1. The formal-legal method was used for the analysis of legal norms regulating the activities of these parks. It allowed clarifying the content and direction of legal norms.
2. The comparative-legal method was utilized to compare different regulatory frameworks in Ukraine in this field.
3. The sociological method enabled the investigation of the practical experience of technological and industrial parks during the state of war in Ukraine.
4. The statistical method was employed for the analysis of quantitative indicators of the activities of technological and industrial parks before and during the war.
5. The logical method (analysis, synthesis, generalization) allowed for the systematization and summarization of the research results, presenting them in the work.

Methodology. During the research, normative legal acts regulating the activities of technological and industrial parks in Ukraine were analyzed. Scientific publications and analytical materials covering the research topic were also studied. An analysis of statistical data on the registration of industrial parks before and during the state of war was conducted. Throughout the study, we synthesized practical experience in the operations of techno parks and industrial parks and their role in conditions of a state of war, presenting the findings in the research results.

Research Results. The state of war in the country compelled businesses in Ukraine to expedite the development and establishment of technological and industrial parks, which were in a period of stagnation before the full-scale invasion of Ukrainian territory. This is because techno parks and industrial parks are essential components of the economic infrastructure of any country, and their role becomes increasingly crucial during times of crisis and military threats. Ukraine faces a myriad of challenges, including the need to maintain a stable economy and provide necessary resources for its citizens and armed forces. In such times, technological and industrial parks can play a vital role.

Many enterprises were forced to close or redirect their focus towards the production of military equipment. In this situation, technological parks and industrial parks play a particular role in concentrating production capacities and infrastructure. "In the first months after the full-scale military invasion of the Russian Federation into Ukraine, industrial parks were considered as potential sites for relocating enterprises. However, it turned out that they did not have ready premises for relocating businesses, and there were no available brownfield lands. These circumstances, along with the reform of the state incentive system for industrial parks, within which changes were made to the Tax and Customs Codes of Ukraine in June 2022, prompted brownfield owners to create industrial parks" [1, p. 68].

In our opinion, the driving force behind the development of any country is the people who produce goods, earn money, pay taxes, and remain in the country. The main goal is to attract Ukrainian or foreign investors who should come, understand the risks, lease premises,

and so on. Their mission is simply to provide our people with employment, pay them good salaries, and contribute taxes. This is what Ukraine truly needs today – taxes and high wages. The revival and reform of the Ukrainian technological and industrial parks will create all the opportunities for improving the investment climate, bringing Ukrainians back from abroad, and fostering rapid industrial development during both wartime and post-war periods.

It is worth noting that on June 21, 2022, the Law of Ukraine "On Amendments to the Tax Code of Ukraine Regarding the Creation of Favorable Conditions for the Operation of Industrial Parks in Ukraine" was adopted. The law provides significant benefits to participants in industrial parks. With the adoption of the new law, participants in an industrial park have the right to:

- exemption from income tax;
- entities importing new equipment and components exclusively for their own use in the field of processing industries are exempt from VAT taxation;
- reduction of the land tax rate and lease payments for land or complete abolition of land tax [2].

It is worth noting that technological and industrial parks can become centers of military production. They are a key point in transitioning industries onto "war tracks." The existing production and technological base allows for rapidly scaling up production volumes of necessary goods. Clear concentration of resources, skilled workforce, and equipment will ensure efficient production of essential ammunition, protective gear, transportation vehicles, and heavy machinery. This, in turn, will enhance the country's defense capabilities. However, "one of the current problems in building modern industrial parks is that not everyone can start operating after registration. This arises due to poorly developed concepts, incorrectly chosen park specialization, issues with professional management, disappearance of investors (due to war), and so on" [3, p. 811].

It is noteworthy that the new laws enacted during the war have provided an additional impetus for the development of Ukraine's industry. This serves as a good example of formulating a strategic plan for the modernization and development of the national economy. Industrial parks are created for specific purposes, as it must be advantageous for investors (Figure 1). In particular, industrial parks can serve as a solid foundation for the development of industrial biotechnologies, including the processing of food crops, bioprocessing of oilseeds, and more. Such an approach to industrial reform will help regulate the economic situation in the country and give Ukrainian manufacturers stronger positions in the global market. This strategy of economic changes is crucial for our country in a state of war.

Also, industrial parks serve as locations for the re-equipment and repair of machinery. Due to the high frequency of combat operations, swift repairs to damaged equipment are crucial. In specialized zones

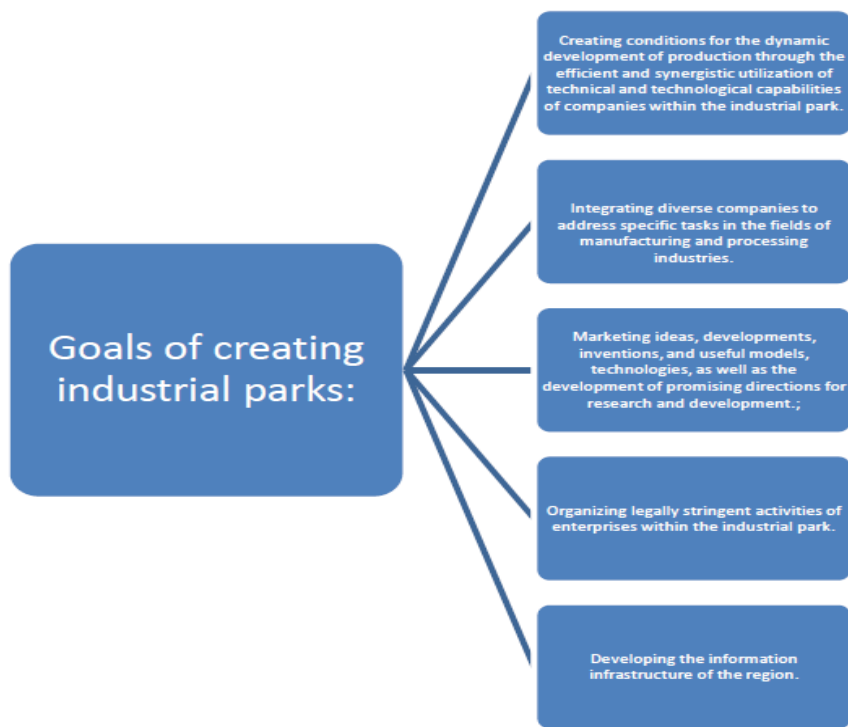


Fig. 1. Goals of creating industrial parks [4, c.47]

with the necessary infrastructure, this can be done efficiently and within short timeframes. "To make a decision on including the industrial park in the Register maintained in the form approved by the Ministry of Economic Development of Ukraine, the initiator of the industrial park's creation submits documents to the Ministry of Economic Development as provided for by Article 15 of the Law of Ukraine 'On Industrial Parks'" [5, p. 12; 6].

Despite these preferences, industrial parks are not yet functioning properly. As of the end of October 2023, the Register of Industrial Parks lists 70 industrial parks (Fig. 2). In 2022, 14 industrial parks were registered, and during 2023, 10 (with 5 registered in the last four months alone). More than a third of all industrial parks (24) are located in border regions with the EU [7].

In the conditions of a state of war, there is a significant increase in demand for digital technologies to counter disinformation and cyberattacks. Technoparks with modern IT infrastructure can serve as a foundation for the development and implementation of software to protect critical infrastructure and civilian data. Technological parks play a crucial role in attracting foreign investments and advanced technologies. The presence of infrastructure and favorable conditions makes them attractive to investors, allowing them to raise funds for production modernization. "Summing up the involvement of enterprises within technoparks and a separate niche of industrial parks, there is increased interest not only from domestic but also foreign companies and projects. Furthermore, the interest in technoparks among Ukrainian enterprises is explained by



Fig. 2. Industrial Parks in Ukraine as of October 2023

the relocation process from hazardous territories in 2022, which prompted the construction and registration of new parks" [8, p. 154].

It is worth noting that in Ukraine, as in most developing countries, the attractiveness of industrial parks for investors should be based on the fact that some entity (government institution or local government) bears part of the costs for its business. Obviously, if private companies are involved in the planning and maintenance of industrial parks, they will shift the costs onto the shoulders of park participants, including their own profit margin. Usually, the initiators of creating industrial parks are local authorities interested in stimulating investment activities in their territory.

The main goal of technological parks is the comprehensive organization of knowledge-intensive production by maximizing the creation and implementation of new technologies, as well as stimulating the development of the creative potential of professionals [8, p. 154]. By combining scientific, production, and financial resources, science and technology parks ensure the reproduction of the entire life cycle of innovation: research - development - implementation - large-scale industrial production of competitive globally science-intensive high-tech products. Science and technology parks are innovative structures that can maximally effectively use competitiveness factors such as resource provision, which are crucial in modern conditions.

Supporting the country's economy is of crucial importance. In times of war, it is essential not only to supply military equipment but also to ensure the stability of the economy and prevent its collapse. Industrial and technological parks can continue producing civilian goods during wartime to meet market and population needs. Technoparks with their advanced infrastructure serve as a foundation for the reconstruction of the devastated economy after the cessation of hostilities. Technoparks enable the rapid creation of new businesses and projects. For instance, the Lviv industrial zone is ready to welcome investors and companies relocating production from hazardous territories.

Industrial parks create a basis for sustainable long-term development of the industrial potential of a specific region, contribute to the creation of new jobs, reduce import dependence, create a comfortable business environment, enhance intellectual potential, and increase tax revenues to budgets at all levels [4, p. 47]. An industrial park should become a powerful engine of the economy, driving the development of Ukrainian industry and its integration into the European system. The state has created conditions for this: in addition to tax incentives, the budget for 2024 includes 1 billion hryvnias for the industrial park support program. In times of war, the government has added tax and tariff privileges for industrial zones, allowing entrepreneurs to quickly reprofile to meet urgent needs. New enterprises actively engage in available spaces in industrial areas.

Measures to strengthen the role of Ukrainian technoparks and industrial parks in a state of war not only

support basic needs and the country's defense capabilities but also lay the foundation for post-war economic reconstruction and development [1, p. 68]. Today, the world is reconsidering the importance of industrial parks for the economic recovery of our country. Many politicians, analysts, and business representatives believe that the industry can be a lifeline for the country's economy. The formation of new industrial associations, industrial clusters, and industrial science and technology parks will accelerate the development of various sectors of the Ukrainian economy. Innovations related to the possibility of creating small distribution systems in industrial parks create a market for independent electricity providers. Now such specialized companies can independently install a network in an industrial park and then sell this capacity to park participants. For the initiators of industrial parks, the cost of the network itself is almost a non-refundable investment.

The activities of technological parks primarily contribute to the development of the high-tech sector, including the IT industry. This sector is currently experiencing growth and provides a significant portion of budget revenues; the development of IT has helped partially offset economic losses in other industries. Technological parks contribute to the development of innovation and entrepreneurship. At a time when Ukraine is in the midst of an economic crisis, creative and innovative solutions are necessary to steer the economy in the right direction. Startups based in technological parks can offer innovative products and services. Technological and industrial parks play a crucial role in supporting the national economy in times of war. The further development of these parks should become a priority in state policy aimed at the rapid recovery of Ukraine's economic potential after the war's end.

Additionally, they can contribute to the development and diversification of the economy, as even during wartime, there is a need for the development and implementation of new products and services that will be viable both in domestic and foreign markets. This can also create additional opportunities for export, fill the state budget, and strengthen foreign reserves. Moreover, industrial and technological parks can provide jobs for local residents who have lost employment due to military actions or the occupation of parts of the country. Jobs in production help maintain the economic and social stability of the country.

Ensuring the functioning of technoparks and industrial parks requires constant attention from the state. In times of war, when the normal daily routine is replaced by frontline demands, it is crucial to guarantee the security of energy supply, logistics, and protection against potential attacks and internal instability. Understandably, the development of the network of industrial and technological parks in Ukraine requires not only legislative regulation and financial support from the state but also a highly

professional approach from the creators of technical and industrial parks. This is a new economic sector that offers a wide range of investment opportunities. Ukraine needs not only military support but also support for economic reforms. Our country is going through a very complex historical period and, at the same time, is shaping a new outlook and model of economic relations that will lay the foundations for modern Ukraine.

Conclusions. Technological and industrial parks are a crucial element in the development of Ukraine's economy during wartime. They facilitate a rapid

transition to a wartime economy, aid in post-war reconstruction, and attract foreign investments. Therefore, state support for technical complexes should be part of economic policy in times of war.

In summary, technological and industrial parks play a crucial role in supporting Ukraine's economy during wartime. They can preserve jobs, increase the production of essential goods, and promote innovation. The further development of industrial parks and the creation of favorable conditions for them are strategic goals of state policy in times of war and post-war reconstruction.

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